## Amendments to the Drawings

The attached sheet of drawings includes a change to Figure 11A.  This sheet replaces the original sheet of drawings.

## Remarks

The present amendment is submitted in response to the final office action mailed May 11, 2007. Claims 1 -- 3, 5 -- 8, 12 and 13 are pending in the application. Claims 6, 7 and 13 are withdrawn from consideration.

In the Office action, the Examiner objected to the Information Disclosure Statement and inquired about references 012 - 19th Annual Symposium on Photomask Technology, Proceedings of the SPIE Vol. 3873, Editors Abboud, F. and Grenon, B. 1999 and 013 - Optical Microlithography IX, Proceedings of the SPIE Vol. 2726, Editor Fuller, G. 1996. Applicant is unaware of any particular relevance these references have to the pending claims. If the Examiner has any additional questions regarding the IDS or references cited, it is requested that the Examiner call applicant's attorney at the number listed below.

The Examiner has also objected to FIGURE 11A because the reference number 1000 was missing. Applicant is enclosing a substitute FIGURE 11A that includes a missing reference number. It is therefore requested that the Examiner withdraw the objections to the drawings.

Claims 1 -- 3, 5, 8 and offer rejected under 35 U.S.C. § 103(a) is being unpatentable over Mukherjee, US patent 6,649,309 in view of the Cobb and Zachor paper, "Fast, Low-Complexity Mask Design." Applicant respectively traverses rejection. As discussed in the previous response, the Mukherjee patent describes a technique of optical proximity correction (OPC) that replaces or distorts shapes having a high spatial frequency content by shapes with a lower spatial frequency content. First, the presence of sharp corners and shapes having high frequency components are identified. Then the sharp corners are replaced by a smooth curve having a smaller radius of curvature i.e., with low-frequency components. Each contour of the curved shape is then approximated by Ortho or Ortho-45 shapes which closely follow the contour. As

can be seen in FIGURES 3, 5, 6, 7 and 8 of the Mukherjee patent, the initial rectangular

polygons are replaced by curves having specified curvatures. Furthermore, as can be seen in

FIGURE 6, the curve is approximated by orthogonal and 45°/135° lines.

Nothing in the Mukherjee reference or Cobb et al. paper discloses a technique for

preparing a layout file for the application of OPC by adjusting the number of fragmentation

points on a perimeter of a polygon defining features to be created in accordance with calculated

image curvature. In the embodiment shown in FIGURES 10A – 10E and described on pages 15

line 31 – page 16, line 9 of the present application, a feature to be created on a wafer is defined

as a polygon. The polygon is fragmented with an initial fragmentation pattern and image

curvature is calculated at simulation sites around the perimeter of the polygon. Based on the

curvature values calculated, fragmentation points may be added or removed on the perimeter of

the polygon. In the Mukherjee OPC technique, the initial polygon defining a feature to be

created is not re-fragmented with fragmentation endpoints on the perimeter of the polygon but is

replaced with a curve having lesser high frequency components. Similarly, nothing in the Cobb

et al. reference discloses adjusting the number of fragmentation end points on a perimeter of the

polygon in accordance with simulated image intensity curvature values. Therefore, it is

submitted that Claim 1 and the claims that depend thereon are allowable.

Furthermore, because the Mukherjee reference does not disclose a method for preparing a

layout of an integrated circuit by fragmenting a polygon that describes a structure to be created

via photolithography, performing an initial fragmentation that divides the polygon into the

number of edge segments that extend around the perimeter of the polygon, defining controls sites

for the edge segments, computing a simulation of curvature of an image intensity at a location on

a wafer corresponding to a control site in a direction parallel to an edge segment under defined

process conditions and using the results of the simulation to adjust the fragmentation of the polygon to add fragmentation points on the perimeter of the polygon in areas where the curvature of the image intensity is greater than a predetermined amount and/or to remove fragmentation and points on the polygon where the curvature of the image intensity is less than a predetermined amount. Therefore, it is submitted that Claim 8 and the claims that depend thereon are allowable.

Applicant is submitting this amendment in response to the Examiner's interpretation of the Mukherjee reference, which is believed to be in error. It is therefore requested that the Examiner enter this amendment, withdraw the rejections and pass the case to issue at the earliest possible date.
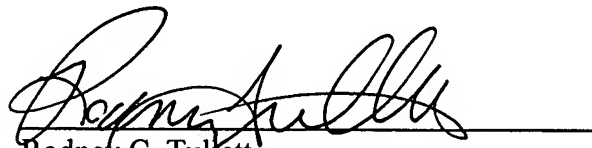
If the Examiner feels that a telephone interview would be helpful to resolving any outstanding issues in this application, the Examiner is invited to call Applicant's attorney at the number shown below.

Respectfully submitted,

KLARQUIST SPARKMAN, LLP

One World Trade Center, Suite 1600
121 S.W. Salmon Street
Portland, Oregon 97204
Telephone: (503) 595-5300
Facsimile: (503) 595-5301

By

Rodney C. Tuffett
Registration No. 34,034